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10/779,661	02/18/2004	Fumitomo Matsuoka	249040US-2S DIV	1341
22850 7590 06/04/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER LEE, EUGENE	
			ART UNIT	PAPER NUMBER
			2815	
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/779,661
Filing Date: February 18, 2004
Appellant(s): MATSUOKA, FUMITOMO

MAILED

MAY 31 2007

GROUP 2800

Eckhard H. Kuesters
For Appellant

EXAMINER'S ANSWER

Art Unit: 2815

This is in response to the appeal brief filed 1/16/07 appealing from the Office action mailed 8/4/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

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(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,159,782

XIANG

12-00

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Insulated Gate Field Effect Transistor Using a Buried-Type Gate Electrode Structure.

Claim Rejections - 35 USC § 102

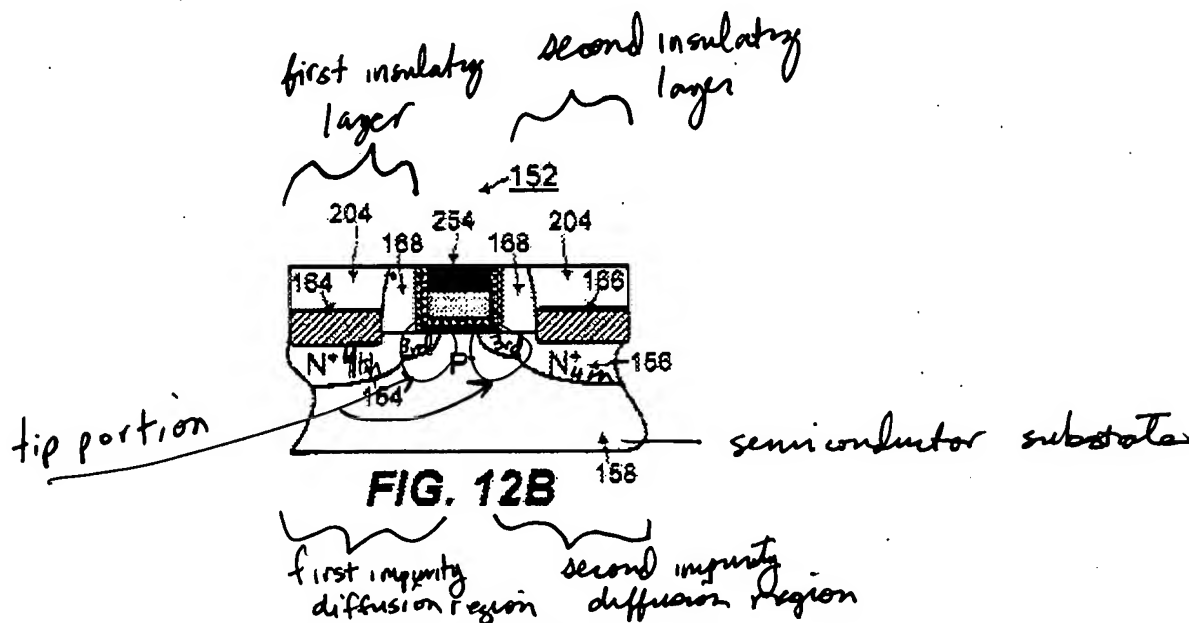
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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3. Claims 14, 15, 17, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Xiang et al. 6,159,782. Xiang discloses (see, for example, FIG. 12B) an NMOSFET (semiconductor device) 152 comprising a P-well (semiconductor substrate) 158, drain (first impurity diffusion layer) 154, source (second impurity diffusion layer) 156, spacers/insulator material (first insulating layer) 168/204, spacers/insulator material (second insulating layer) 168/204, opening (trench) 212, high dielectric constant (gate insulating film) 223, and gate electrode material (gate electrode formed as a conductive layer) 232. In column 6, lines 50-52, Xiang discloses the high dielectric constant being Ta_2O_5 . In column 5, lines 28-30 and column 6, line 1, Xiang discloses the spacers and insulator material respectively comprising silicon dioxide.

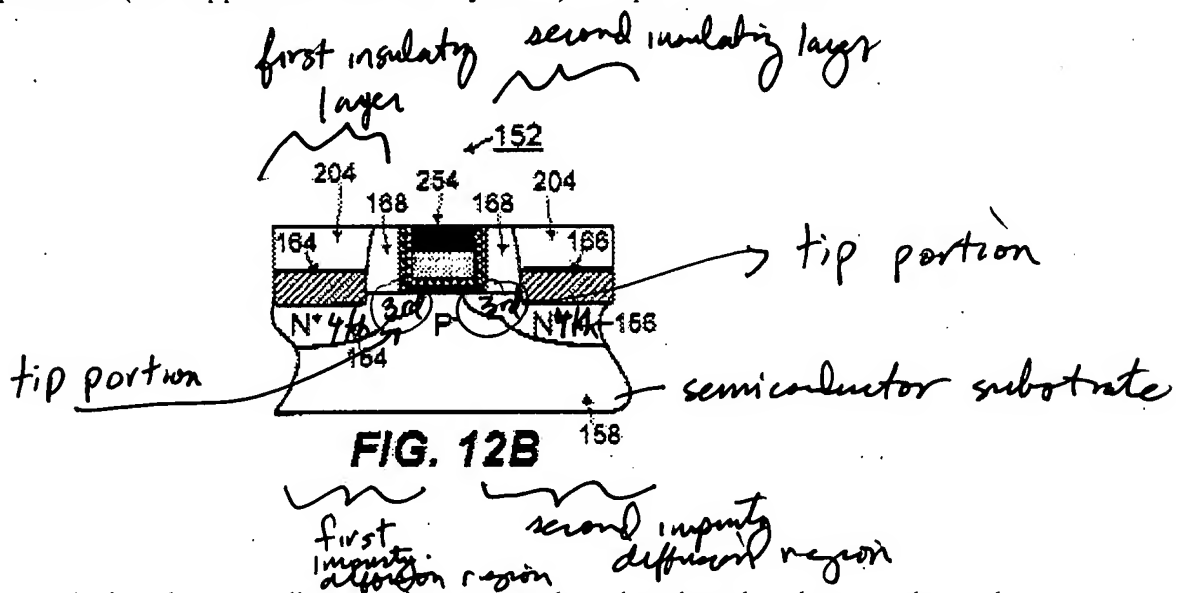


Regarding claim 18, see, for example, FIG. 12B wherein Xiang discloses a drain salicide/source salicide (metal silicide layer) 164/166.

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(10) Response to Argument

Regarding the appellant's argument on page 6 of the appeal brief filed 1/16/07 that the drawings of Xiang are not to scale and not of such a character to indicate that they are accurate as to relative sizes and positions of the elements illustrated therein, this argument is not persuasive, because FIG. 12B of Xiang '782 undeniably shows the gate electrode 234 being formed in an overlapped relation relative to the tip portion of the first impurity diffusion layer 154, and the top portion of the second impurity diffusion layer 156. The Xiang reference and the Examiner's interpretation (as it appears in the final rejection) is reproduced below.



There is no other conclusion that an ordinary artisan can make other than that the gate electrode overlaps the tip portions. The figures are considered part of the disclosure and Xiang clearly discloses this overlap. To interpret it any other way would be to deny what is indisputably disclosed in the reference. Regarding whether Xiang's drawings are to scale, this is also not persuasive since the issue here is not scale but whether one region overlaps another region relative to one another. We are not trying to determine a region's size or determining its exact length but whether one region is overlapping another region. Therefore, this is not an issue of

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size or scale but rather the positioning of a region relative to another region. Because it is disclosed in the figure, it is expected that the ordinary artisan would make the device in exactly the same way as it is structurally shown in FIG. 12 of Xiang. The appellant has not provided a persuasive reason why this clear teaching would be ignored by the artisan. There is nothing in the disclosure which would dissuade the artisan from making the disclosed device as it exactly shown in FIG. 12B. Therefore, since FIG. 12 of Xiang clearly discloses this overlap, the reference anticipates the "overlap" limitations of the appellant's claims.

Regarding the appellant's argument on the bottom of page 7 of the appeal brief that there is nothing suggested as a purpose for spacers 168 other than the purpose well understood by those of ordinary skill in the art as to the use of spacers 168 to form lightly doped shallow portions, this argument is not persuasive. The purpose of the spacers does not change what is clearly disclosed in Fig. 12 of Xiang; that the gate electrode overlaps the tip portions. To make any other assumption in order to deny this fact would only contradict what is already clearly disclosed in Xiang. For the sake of arguendo, even if the purpose of the spacers had an effect, (which they do not) Xiang does not disclose the spacer's purpose and the reasons purported by the appellant are purely conjecturally in nature. Further, Xiang does not disclose at all what method was used to form the first and second diffusion regions as it relates to the spacers (see, for example, FIG. 1A which already shows the first and second diffusion regions formed), and therefore the appellant's reasons are also pure conjecture. The only conclusion that one of ordinary skill in the art can make which is definitive and not speculative in nature is that the first and second diffusion regions overlap the gate electrode because it is clearly disclosed in FIG. 12B of Xiang.

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Regarding the appellant's argument on the bottom of page 8 of the appeal brief that the position and size of spacers 168 relative to the position and size of the shallow lightly doped portions labeled 3rd in the FIG. 12B reproduction by the PTO is at best an ambiguous disclosure, this argument is not persuasive. FIG. 12B of Xiang is not an ambiguous disclosure, and clearly discloses the first and second diffusion regions overlapping the gate electrode. To interpret it any other way would be to ignore what is clearly disclosed by Xiang.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Eugene Lee



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